

**CLAIMS:**

1. A magnetic resonance imaging receive circuit, comprising:
  - (a) a first portion including an rf antenna and decoupling circuitry adjacent to the antenna;
  - (b) a spaced-apart second portion including mode control circuitry for causing the decoupling circuitry to switch the circuit between an rf receive mode in which the antenna is tuned for receipt of an rf signal, and a decoupled mode in which end terminals of the antenna are held at a substantially equal DC bias potential; and
  - (c) balanced cables connecting the first and second portions, the cables transmitting a DC control to the decoupling circuitry when the circuit is in decoupled mode, and transmitting differential rf signals to the second portion when the circuit is in receive mode.
- 15 2. A circuit as claimed in claim 1 in which the first portion includes matching circuitry which provides substantially complete impedance matching between the antenna and the cables.
- 20 3. A circuit as claimed in any one of the preceding claims in which the second portion includes a balun for converting a differential mode signal on the cables to a common mode signal which is then passed to a balun output; and for rejecting any common mode signal on the cables.
- 25 4. A circuit as claimed in claim 3 in which the second portion includes balun matching circuitry providing substantially complete impedance matching between the balun and the cables.

5. A circuit as claimed in claim 4 in which the balun is arranged to convert a DC signal applied to the balun to equal DC biases on the balanced cables.
- 5 6. A circuit as claimed in any one of the preceding claims in which the antenna is matched when in rf receive mode by tuning circuitry within the first portion.
- 10 7. A circuit as claimed in any one of claims 1 to 5 in which the antenna is matched when in rf receive mode by first tuning circuitry within the first portion and second tuning circuitry within the second portion.
8. A circuit as claimed in any one of the preceding claims including means for restricting the current flowing along the cables when in decoupled mode.
- 15 9. A circuit as claimed in any one of the preceding claims in which the cables comprise a pair of co-axial cables.
- 20 10. A magnetic resonance imaging device including a circuit as claimed in any one of the preceding claims.
11. A magnetic resonance imaging device as claimed in claim 10 including an endoscope or catheter probe, the antenna being mounted to the probe.
- 25 12. A device as claimed in claim 11 in which the endoscope or catheter probe, and the said first portion, are designed for single-use.